The weather risk attribution forecast for July 2013

12IMSC: S10.1

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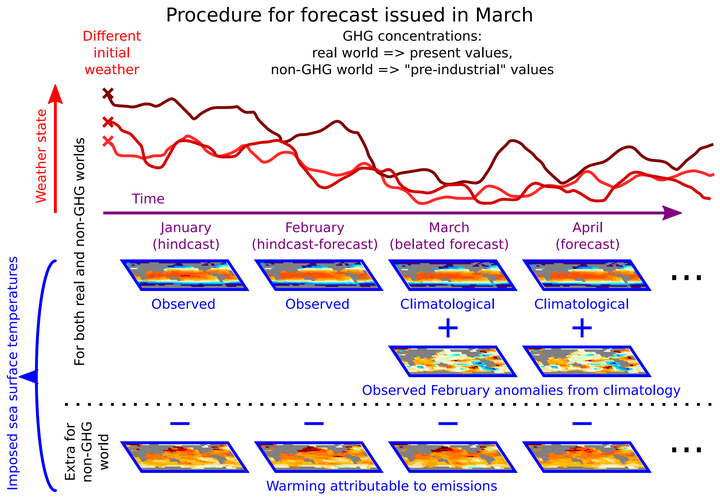
Abstract

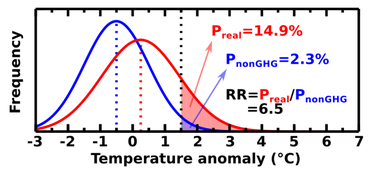
This poster presents the July 2013 "attribution forecast" from the world's first objective real-time system for examining how anthropogenic emissions have contributed to weather risk in our current climate. It compares real seasonal forecasts against parallel counterfactual seasonal forecasts of the climate that might have been had human activities never emitted greenhouse gases. It proactively addresses the question: "Has this event been made more or less frequent by our emissions?"

Method

This service generates a standard monthly seasonal forecast and a parallel forecast under a "non-greenhouse-gas" scenario. Current ensemble sizes for forecasts: 10.



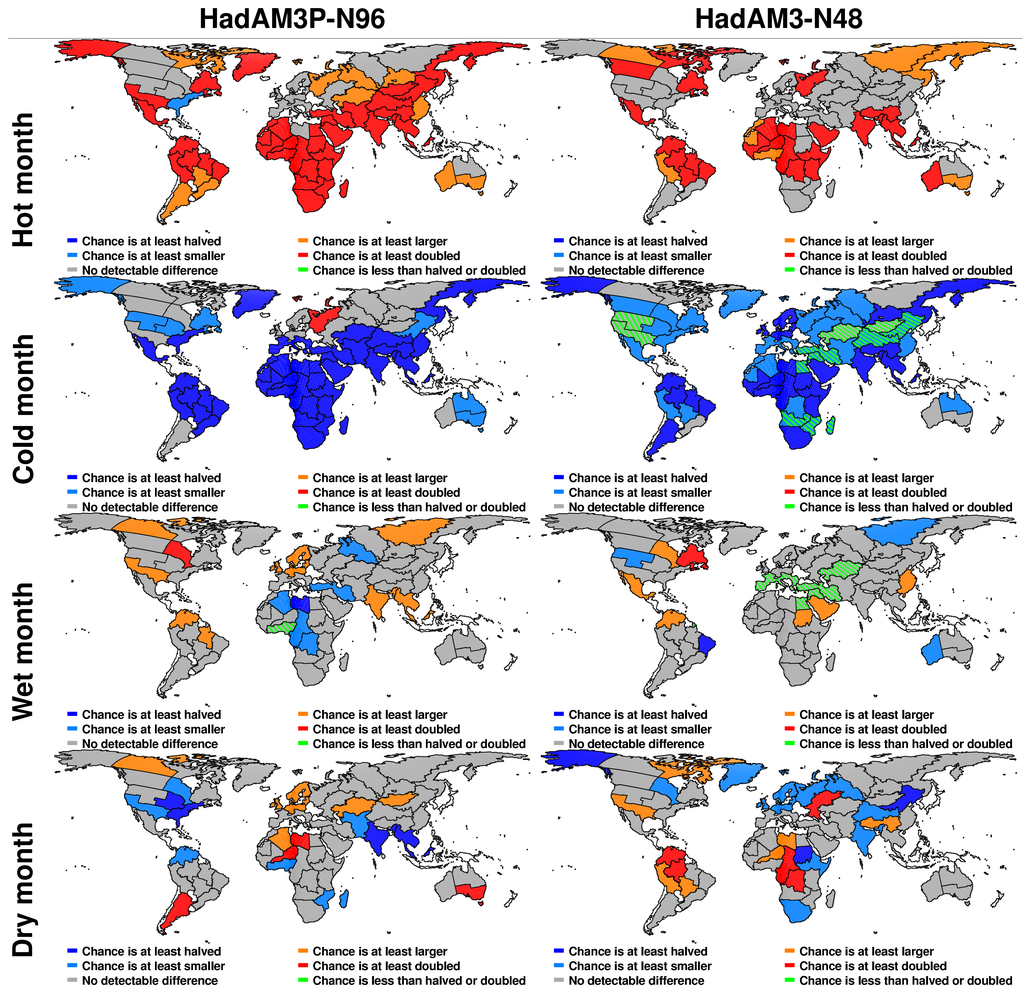
The probabilities of predefined unusual events are estimated from both forecasts and compared. Ensemble size: 10.



The attribution forecast for July, issued in June

Attribution forecasts are made for unusually (historically 1-in-10 year) hot, cold, wet, and dry months over 58 regions of $\sim$ 2Mm^2 size around the world using HadAM3P-N96 and HadAM3-N48 (and CAM5.1-2degree in hindcast mode).

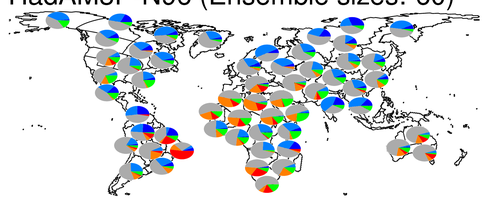
Statements concern what can be said with confidence concerning exceedance of various attribution thresholds, rather than estimates of what is most likely.



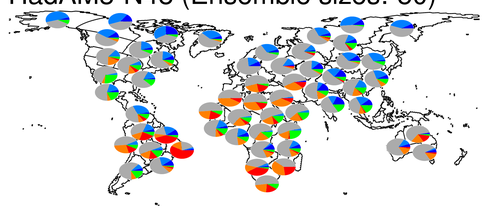
Spatial pattern of statements

Unusually dry months, 2009-2011, hindcast mode

HadAM3P-N96 (Ensemble sizes: 60)



HadAM3-N48 (Ensemble sizes: 50)



CAM5.1-2degree (Ensemble sizes: 51)